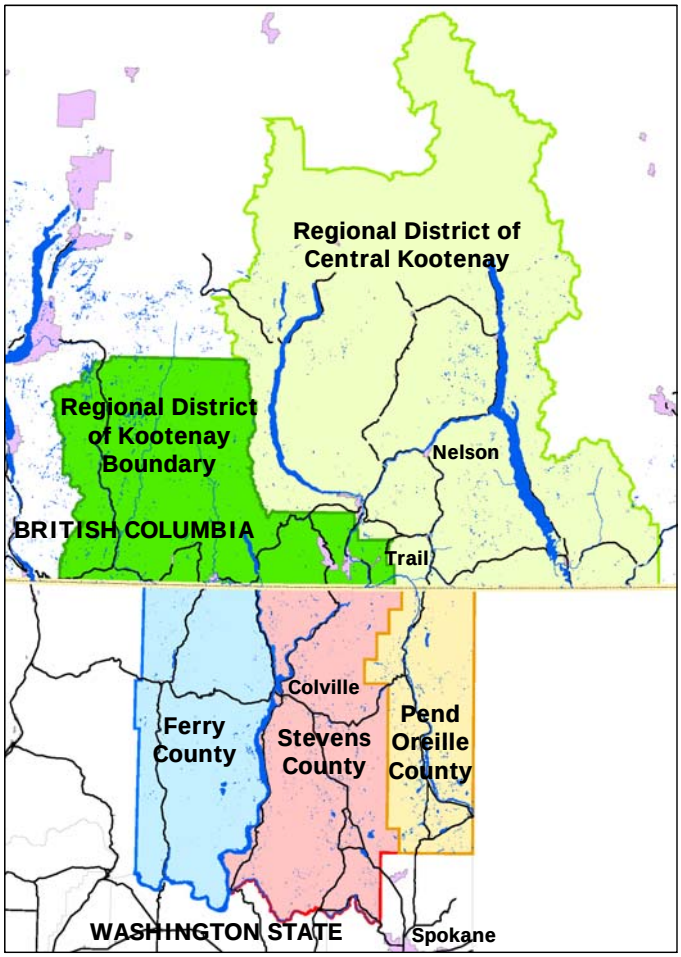
1.0 CONTEXT

The stated purpose of this study is to broadly investigate opportunities to enhance highway corridor access and performance principally between the West Kootenay Region of British Columbia and the Tri-County Region of Washington State. The intent is support for enhanced cross-border trade and tourism, improved Regional industrial productivity and competitiveness and improved highway safety. In order to establish the context within which such improvements should be considered, this section outlines an economic profile for the Region proposed to be serviced and the current/historic performance of the existing highway corridors and border crossing facilities in the area.

1.1 Regional Economic Profile

In order to establish a consistent platform of understanding of the primary motivator for highway corridor upgrades, a regional economic profile was developed for the West Kootenay Region of British Columbia and the Tri-County Region of Washington State. For the purposes of this study, the West Kootenay Region is defined as consisting of the Kootenay Boundary and Central Kootenay Regional Districts in southeast British Columbia and the Tri-County region is defined as consisting of Ferry, Stevens and Pend Oreille counties in northeast Washington State (**Figure 1**). These two regions form a total study area of 45,942 km^2 (17,740 mi^2), although the West Kootenay Region makes up almost two thirds of this study area. The study area has a combined population of approximately 150,000 residents, approximately 60% of which live in the West Kootenay Region. Despite their distinctions, the West Kootenay and Northeast Washington Regions share many similar socio-economic and geographic characteristics.

Figure 1: Map of Study Area

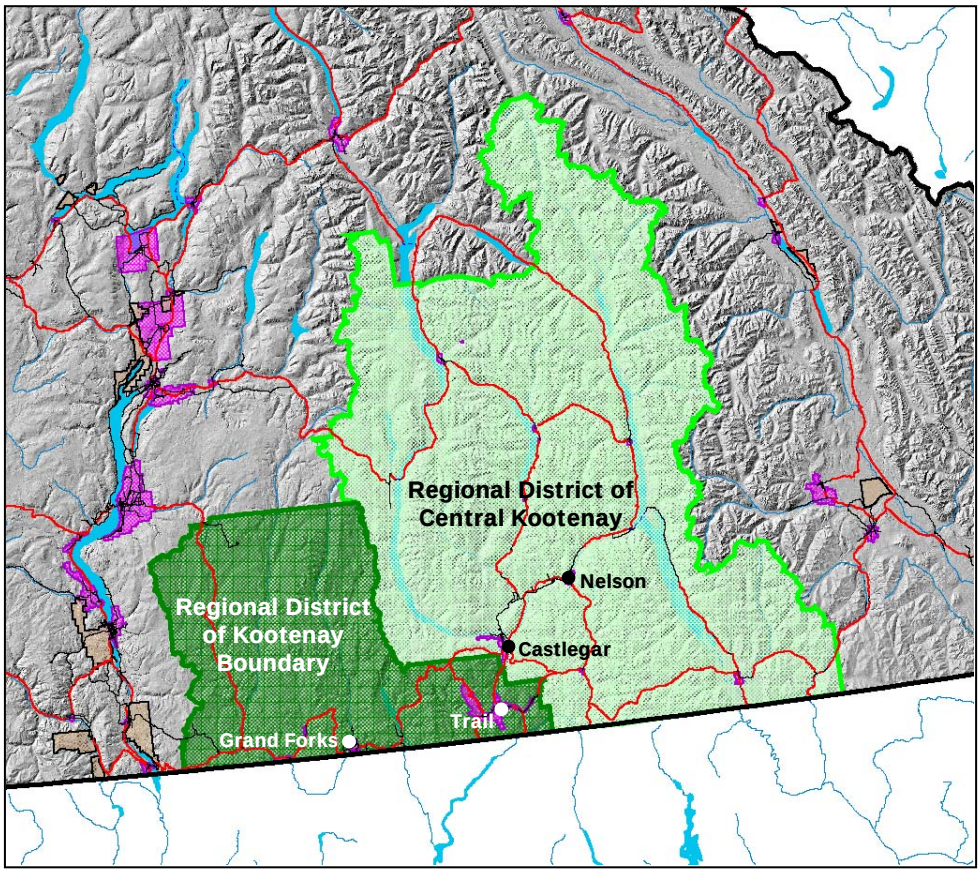


This economic profile was generated using demographic and economic data from several sources. Canadian data was obtained from various federal, provincial and municipal government sources, including Statistics Canada, BC Stats, and the respective regional districts and municipalities in the West Kootenay Region. Most Canadian data is based on the 2001 Canadian Census. American data was obtained from various federal, state, and county government sources, including the US Census Bureau, the Washington State Office of Financial Management, Access Washington, and the Tri-County Economic Development District. Most American data is based on the 2000 U.S. Census.

1.1.1 West & Central Kootenay Region

The West Kootenay Region consists of the Regional District of Kootenay Boundary (RDKB) and the Regional District of Central Kootenay (RDCK). The West Kootenay Region extends from the head of the Duncan River in the north to the US border in the south and from the area east of Creston to the Eholt Summit and Anarchist Summit in the west (**Figure 2**).

Figure 2: Detailed Map of West Kootenay Region



The West Kootenay Region has a total land area of 30,226 km^2 (11,671 mi^2) (just over 3% of British Columbia's total expanse). The Regional District of Central Kootenay is by far the larger of the two regional districts, with a land area of 22,130 km^2 (8,545 mi^2) compared to 8,095 km^2 (3,126 mi^2) in the Regional District of Kootenay Boundary.

It should be noted that for the purposes of this study only the Trail/Castlegar Economic Development Region and the Colville/US 395 region were considered in the evaluation of potential highway alignment alternatives. However, for the purposes of discussing the overall socio-economic conditions of the West Kootenay Region both the entire Kootenay Boundary and the Central Kootenay regional Districts were considered.

The West Kootenay Region has a population of approximately 90,000 people in its 17 incorporated municipalities and 16 unincorporated Electoral Areas (**Table 1**). The region is home to a low density population of approximately 3 people/km^2 (1.2 people/mi^2) which is lower than the population density found in the Tri-County Region.

Table 1: Municipalities in the West Kootenay Region

Regional District	Municipality	Population (2003)
Central Kootenay	Nelson	9,630
	Castlegar	7,168
	Creston	4,957
	Nakusp	1,765
	Salmo	1,142
	Kaslo	1,053
	New Denver	553
	Slocan	374
	Silverton	232
	+ 11 Unincorporated Areas	*32,514*
Kootenay Boundary	Trail	8,167
	Grand Forks	4,113
	Rossland	3,714
	Fruitvale	2,084
	Warfield	1,828
	Montrose	1,098
	Greenwood	666
	Midway	644
	+ 5 Unincorporated Areas	*10,913*

Source: BC Stats Regional District Population Estimates 1996-2003

The West Kootenay Region is also home to a relatively small aboriginal population, as slightly more than 3% of the regional population is aboriginal (compared to 4% throughout BC).

The West Kootenay Region is geographically similar to the Tri-County Region. The region is dominated by large mountain ranges which are interspersed with deep valleys, rushing rivers and large lakes such as the Kootenay, Christina, Slocan and Upper and Lower Arrow Lakes.

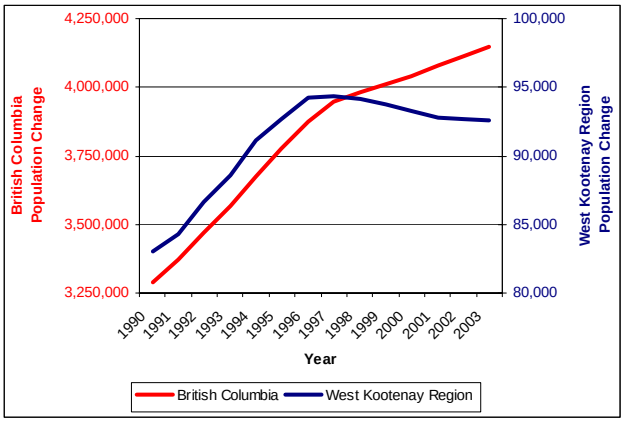
1.1.1.1 Demographic Profile

According to BC Stats, in 2003 the West Kootenay Region had a total population of 92,614, representing 2.2% of British Columbia's population (despite having 3.3% of the province's land mass). The Regional District of Central Kootenay makes up almost two-thirds of this population base, with a population in 2003 of 59,387 compared to 33,227 in the Regional District of Kootenay Boundary.

As mentioned previously, this results in a population density of approximately 3 people/km^2 (1.2 people/mi^2), which is somewhat lower than the provincial average of just over 4 people/km^2 (1.4 people/mi^2). This is also slightly lower than the Tri-County Region's population density of less than 4 people/km^2 (1.5 people/mi^2).

The population of the West Kootenay Region grew by about 12% (or 10,244 people) between 1990 and 2000, which was only about half the provincial growth rate of nearly 23% over that time period. Although the region saw its population increase by over 11,330 people between 1990-1997, the region has seen its population decline every year since, and by 2003 the population had declined by 1,754 (**Figure 3**).

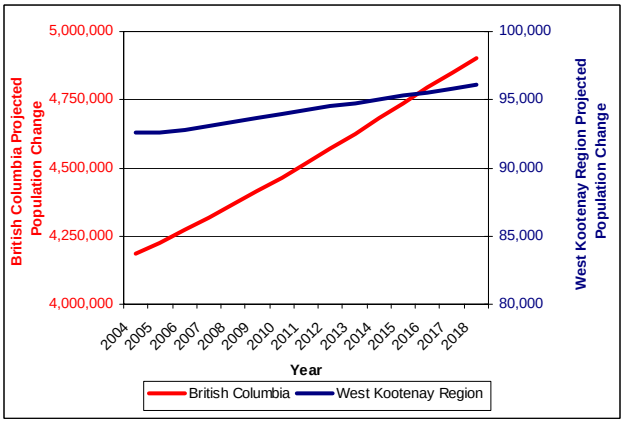
Figure 3: Population Change
(West Kootenay Region and British Columbia, 1990-2003)



Source: BC Stats, P.E.O.P.L.E. Run 29, July 2004, Kootenay Boundary and Central Kootenay Regional Districts and British Columbia Population Forecast 04/05

Despite the recent decline in population, however, BC Stats projects that the population will begin to increase again in 2004. In its most recent population projections which were generated in July 2004, BC Stats estimates that the population of the West Kootenay Region will increase by nearly 3,500 between 2004 and 2018 (**Figure 4**). This results in a growth in population of nearly 4% over this period (an annual average growth rate of less than 0.3%), which is a much smaller rate of growth than the 17% growth rate projected for British Columbia as a whole over this period (or an average annual growth rate of approximately 1.4%). This is also in contrast to the Tri-County Region which, as discussed above, is projected to grow at a much faster rate of between 16% and 61% over this period.

Figure 4: Projected Population Change
(West Kootenay Region and British Columbia, 2004-2018)



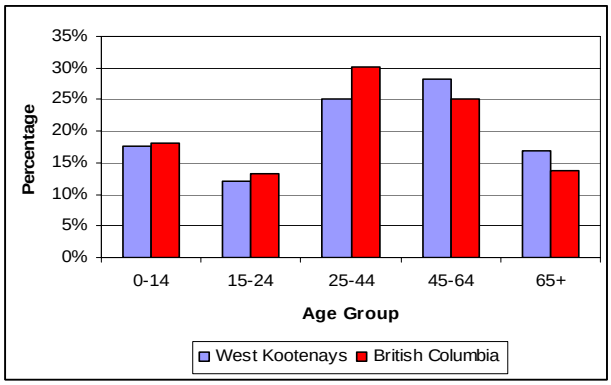
Source: BC Stats, P.E.O.P.L.E. Run 29, July 2004, Kootenay Boundary and Central Kootenay Regional Districts and British Columbia Population Forecast 04/05

The West Kootenay regional population is much more urbanized than the Tri-County regional

population. The West Kootenay Region has more than half (over 53%) of its population living in incorporated areas (which are predominantly urban) and nearly 47% living in unincorporated areas (which are predominantly rural). In contrast, only 23% of the Tri-Counties population lives in incorporated areas.

As shown in **Figure 5**, the West Kootenay Region has a slightly older population than that of British Columbia as a whole, with a higher percentage of residents aged 45 and over than found province-wide. Similarly to the Tri-County Region, the West Kootenay Region has a smaller proportion of residents in the 25-44 age cohort (approximately 25%) than in British Columbia as a whole (approximately 30%) and has a higher proportion of residents in the 45-64 age cohort (approximately 28%) than in British Columbia as a whole (approximately 25%). The age distribution of residents in the West Kootenay Region is remarkably similar to that of the Tri-County Region. The only significant difference in the age distribution is that in the West Kootenay Region there are 4% more residents aged 65 and over than in the Tri-County Region. Conversely, there are 4% fewer residents aged 14 are under in the West Kootenay Region than in the Tri-County Region. There is no significant difference in the age distribution between these two regions for any of the other age groups.

Figure 5: Comparison of Age Characteristics
(West Kootenay Region and British Columbia, 2001)



Source: BC Stats, 2001 Census Profile for Central Kootenay Regional District, Kootenay Boundary Regional District and British Columbia.

1.1.1.2 Economic Profile

a) Major Industries

As shown in **Table 2**, the most significant industries in the West Kootenay Region are (in order): manufacturing; health & social services; retail trade; recreation, accommodation & food services; construction; educational services; and agriculture & forestry. Together these seven industries make up more than 68% of the region's labour force.

Table 2 also shows that the West Kootenay Region has almost double the provincial average of its labour force engaged in agriculture & forestry and that the region also has a significantly higher share of its labour force in the manufacturing sector than the provincial average. Conversely, the region is somewhat underrepresented in terms of

the professional & technical services, wholesale trade, and finance, insurance & real estate sectors.

It should be noted that labour force by industry figures are not directly comparable between Washington State and British Columbia since the two regions classified their labour force based on different Industrial Classification Systems. In general, however, it is apparent from **Tables 2 and 5** that both the West Kootenay and Tri-County Regions are very dependent on the agriculture & forestry sector and the mining sector (together accounting for about 8% of the labour force in both regions, significantly higher than their respective provincial and state averages). In addition, both regions have high concentrations of workers in the manufacturing sector (about 13%) and in the construction sector (about 7%). Finally, both regions have high concentrations of workers in their tourism and cultural sectors (including accommodation and food services, arts, entertainment and recreation).

Table 2: Labour Force By Industry
(West Kootenay Region and British Columbia, 2001)
(Ranked According to Percentage of Labour Force per Industry in the West Kootenay Region)

Industry	West Kootenays	BC	Difference Between West Kootenays & BC
1. Manufacturing	5,805 *(13.4%)*	194,360 *(9.6%)*	**+3.8%**
2. Health & Social Services	5,010 *(11.6%)*	200,065 *(9.9%)*	+1.7%
3. Retail Trade	4,930 *(11.4%)*	232,960 *(11.6%)*	-0.2%
4. Recreation, Accommodation & Food Services	4,865 *(11.2%)*	213,285 *(10.6%)*	+0.6%
5. Construction	3,395 *(7.8%)*	118,705 *(5.9%)*	+1.9%
6. Educational Services	3,260 *(7.5%)*	139,660 *(6.9%)*	+0.6%
7. Agriculture & Forestry	3,185 *(7.4%)*	78,645 *(3.9%)*	**+3.5%**
8. Transportation & Utilities	2,135 *(4.9%)*	125,830 *(6.2%)*	-1.3%
9. Public Administration	2,090 *(4.8%)*	112,790 *(5.6%)*	-0.8%
10. Other Services	2,090 *(4.8%)*	98,285 *(4.9%)*	-0.1%
11. Professional & Technical Services	1,765 *(4.1%)*	138,360 *(6.9%)*	**-2.8%**
12. Finance, Insurance & Real Estate	1,565 *(3.6%)*	122,160 *(6.1%)*	**-2.5%**
13. Administrative & Support Services	1,365 *(3.2%)*	80,805 *(4.0%)*	-0.8%
14. Wholesale Trade	800 *(1.8%)*	82,465 *(4.1%)*	**-2.3%**
15. Information & Cultural Industries	735 *(1.7%)*	62,180 *(3.1%)*	-1.4%
16. Mining	325 *(0.8%)*	14,040 *(0.7%)*	+0.1%

Source: Adapted from BC Stats, 2001 Census Profile for Regional District of Central Kootenay, Regional District of Kootenay Boundary and British Columbia.

b) Further Information Regarding Major Industries

Although the region is largely dependent on the resource sector, there is significant variation within the region in terms of which industries drive the subregional economies. For example, Trail is heavily dependent on the Teck Cominco smelter, Castlegar relies heavily on forest industries and manufacturing in the form of pulp and lumber; and Nelson has a well-diversified economy in which trade and service industries are

important. Because of the diversity within the region, some of the major industries are discussed in further detail below.

Agriculture

In the Regional District of Kootenay Boundary, cattle ranching is the main agricultural activity. In this area, the valley bottoms (particularly those along the main east-west highway) support more intensive use, with the largest concentration of crop land in the Grand Forks area. Agricultural production is limited in the Trail/Rossland area because of the topography. In the Regional District of Central Kootenay, Creston is the centre of agricultural activity, with the focus on grain production. In addition, potatoes, field peas and beans, forage seeds, and tame hay are also cultivated on the flats, and the dairy industry is concentrated south of the flats. The Creston area is also home to significant tree fruit production. There is also agricultural activity in pockets near Kaslo, the south end of the Slocan Valley, and the valleys converging on Salmo.

Forestry

Forest resources in the West Kootenay Region are primarily contained within the Boundary, Arrow and Kootenay Lake Timber Supply Areas (with Annual Allowable Cuts of 700,000, 550,000, and 683,100 m^3 respectively), plus a fraction of the Okanagan Timber Supply Area. Pope & Talbot Ltd. operates the region's largest lumber mill at Castlegar and also operates lumber mills at Grand Forks and at Midway. There are over a dozen other lumber mills throughout the West Kootenay Region.

The forest industries are important economic sectors in the West Kootenay Region, directly employing over 4,000 people in 2001 (with 69% of these employees in the Regional District of Central Kootenay). Among these 4,000 employees, about 33% were employed in forestry and logging; about 55% were employed in wood products manufacturing; and about 12% were employed in paper manufacturing industries. In recent years, the forest industry has been subject to high levels of unemployment. For example, between January 2000 and May 2001 about 55% of the people employed in logging in the Regional District of Kootenay Boundary had been layed off at some point, compared to just 4% of those employed in manufacturing.

Mining

Despite being home to the large smelting facilities at Trail, there are currently no coal mines or coal bed methane exploration in the region, nor are there any metal mines currently in operation. As such, mining activity is generally insignificant outside of Trail, despite the fact that mining played a much more important role in the region in the past. This can be seen in **Table 2**, which shows that mining is the least important

industrial sector in the West Kootenay Region with only 325 employees in this sector in 2001.

Manufacturing

As mentioned above, a strong manufacturing sector is essential to an area's economy. **Table 2** shows that manufacturing is the most important sector in the West Kootenay Region. The manufacturing of forestry products dominates the manufacturing activity in the Regional District of Central Kootenay. The largest manufacturing employer in the Regional District of Central Kootenay 2002 was the Celgar Pulp Mill in Castlegar with between 400-500 employees. The manufacturing sector in the Regional District of Kootenay Boundary is dominated by two large employers (the Atco Lumber Ltd. sawmill in Fruitvale with approximately 500 employees and the Teck Cominco Ltd. smelter in Trail with 1400 employees). The majority of the refinements use forestry and agricultural products while metal refinement also plays an important role in the area. Other manufacturing the region in 2002 included animal foods, bakeries, breweries, clothing, concrete, toys, machinery, machine shops, medical equipment, furniture, and printing.

Tourism

Tourism is becoming increasingly important in the West Kootenay Region, particularly in the Nelson-Balfour strip along the west arm of Kootenay Lake and around Christina Lake, which is a popular site for summer homes and camping. According to the British Columbia Regional Index visitors, from Washington State in particular, are attracted to the region for the excellent fishing available in the region, particularly in Kootenay Lake. Recreational opportunities in the region also include skiing at the Whitewater Ski Resort at Nelson and Red Mountain at Rossland. Hunting is also a popular recreational activity in the region. Tourism development has been limited in Castlegar, despite the natural attractions of the area, largely because of the historical absence of good highway access in all but the southern portion of the region.

c) Labour Force

Canada defines its labour force as consisting of all people aged 15 years and older that are either working or actively seeking work (as opposed to the United States which only includes those aged 16 or over). In 2001, the West Kootenay Region had a total population aged 15 and over of 72,175 and a total labour force of 44,350. Since the definitions of labour force differ between Canada and the United States, it is not possible to directly compare figures for labour force, participation rate, or unemployment rate between the two regions.

d) Income Dependencies

In the report *British Columbia's Heartland at the Dawn of the 21st Century – 2001 Economic Dependencies and Impact Ratios for 63 Local Areas*, BC Stats and the Ministry of Management Services calculate economic dependencies and impact ratios based on 2001 Census data for 63 Local Areas throughout British Columbia (excluding the Greater Vancouver region). The Local Areas defined in the report often consist of a town and its surrounding "catchment" area. The West Kootenay Region corresponds to the five Local Areas of Castlegar-Arrow Lakes, Nelson, Creston, Grand Forks-Greenwood and Trail-Rossland. Income dependence can be defined as the percentage of total basic income that is derived from an individual sector of the economy. The ten basic employment sectors measured in the study comprise individual sector employment, indirect sector employment and downstream activity.

Table 3 shows that within the Kootenay Region there is a significant variation in the income dependencies of each Local Area. For example, the Grand Forks-Greenwood and Castlegar-Arrow Lakes Local Areas are far more dependent on forestry and associated manufacturing than the other Local Areas in the region; the Trail-Rossland Local Area is significantly more dependent on mining and mineral processing than any other Local Areas in the region; and the Creston Local Area is more dependent on transfer payments than the other local areas. All five Local Areas in the region exhibit similar levels of income dependence on agriculture and food and beverage manufacturing; tourism; construction; and other non-employment income.

Table 3: Income Dependencies
(West Kootenay Region Local Areas, 2001)
(Ranked According to Percentage Income Dependencies per Industry in the Trail-Rossland Local Area)

Industry	Trail-Rossland	Grand Forks-Greenwood	Castlegar-Arrow Lakes	Nelson	Creston
1. Mining & Associated Manufacturing	**29%**	1%	6%	2%	2%
2. Public Sector	**23%**	20%	23%	30%	23%
3. Transfer Payments	**18%**	23%	18%	19%	29%
4. Other Non-Employment Income	**15%**	13%	13%	15%	16%
5. Forestry & Associated Manufacturing	**4%**	25%	25%	13%	10%
6. Construction	**4%**	5%	9%	8%	5%
7. Other Employment Income	**4%**	3%	3%	2%	2%
8. Tourism	**3%**	6%	3%	7%	5%
9. Agriculture and Food & Beverage Manufacturing	**0%**	4%	0%	1%	7%
10. Fishing and Trapping & Associated Manufacturing	**0%**	0%	0%	0%	0%
11. Film Production & Sound Recording	**0%**	0%	0%	0%	0%
12. High Technology	**0%**	0%	1%	2%	0%

Source: BC Stats, British Columbia's Heartland and the Dawn of the 21st Century: 2001 Economic Dependencies and Impact Ratios for 63 Local Areas.

e) Income

In 2000, the average income among those aged 15 and over was CAD$26,842 in the Regional District of Kootenay Boundary and CAD$24,985 in the Regional District of Central Kootenay. These figures are lower than the provincial average income of CAD$29,613.

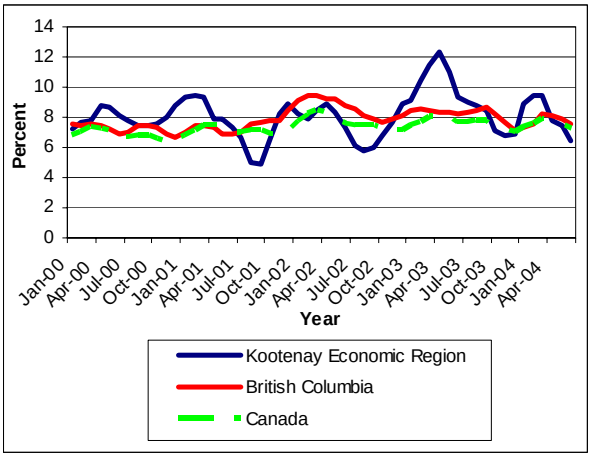
f) Participation and Unemployment Rates

In 2001, the West Kootenay Region had a participation rate of over 61% (lower than the rate of about 65% found throughout British Columbia). Despite the different labour force definitions that are used in the United States and Canada, the participation rates in British Columbia are remarkably similar to participation rates in Washington State as a whole (both have rates of approximately 65%). However, the participation rate is higher in the West Kootenays than it is in the Tri-County Region (nearly 56%). The unemployment rate is close to 11% in the West Kootenay Region, which is significantly

higher than the provincial unemployment rate of 8.5%, but very similar to the unemployment rate in the Tri-County Region of 11.1%.

As was discussed in the previous section, unemployment rates are dynamic figures and can change significantly over relatively short periods of time. Unfortunately, however, Statistics Canada does not provide monthly unemployment and participation rates at the scale of the regional district. As such, the smallest scale of analysis for which monthly unemployment and participation rate data is available is for the larger Kootenay Economic Region which, as defined by Statistics Canada, includes the Central Kootenay, Kootenay Boundary, and East Kootenay Regional Districts. **Figure 6** provides an overview of the unemployment rate in Canada, British Columbia and the Kootenay Economic Region on a monthly basis from 2000-2004. This figure is provided only for illustrative purposes since the Kootenay Economic Region corresponds to a different scale of analysis than used elsewhere in this paper. This figure shows that the West Kootenay Region exhibits more seasonal variation in its unemployment rate than the province as a whole or nationwide. Of particular interest is the surge in the unemployment rate in the Kootenay Economic Region in the first half of 2003, a direct result of temporary closures of two large sawmills in the region which employed approximately 500 people. As of June 2004 the unemployment rate in the region dropped significantly to its lowest level since September, 2002, which is a reflection of the improved conditions within the softwood lumber industry.

Figure 6: Monthly Unemployment Rate
(Canada, British Columbia and Kootenay Economic Region, 2000-2004)

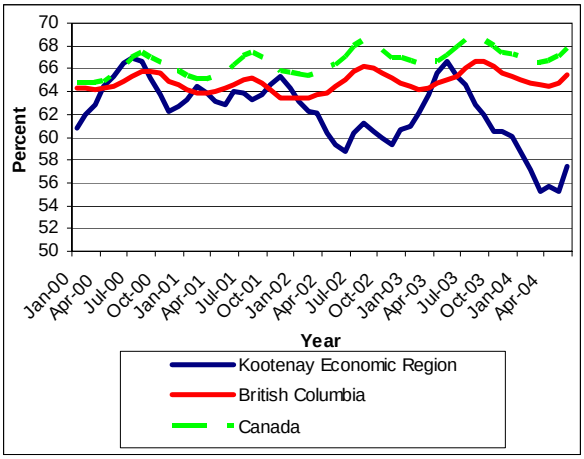


Source: Statistics Canada, 2004 Labour force survey estimates (LFS), by economic region, 3-month moving average, monthly.

Similar to the unemployment rate, the participation rate can also exhibit significant variations over relatively short periods of time. As such, **Figure 7** outlines the participation rate in Canada, British Columbia and the Kootenay Economic Region on a monthly basis from 2000-2004. This figure is provided only for illustrative purposes since the Kootenay Economic Region corresponds to a different scale of analysis than used elsewhere in this paper. Of particular note is the dramatic decline in the participation rate since May, 2000, a trend which has just recently begun to rebound.

This decline of over 11% in less than a year was not matched by provincial or national trends.

Figure 7: Monthly Participation Rate
(Canada, British Columbia and Kootenay Economic Region, 2000-2004)



Source: Statistics Canada, 2004 Labour force survey estimates (LFS), by economic region, 3-month moving average, monthly.

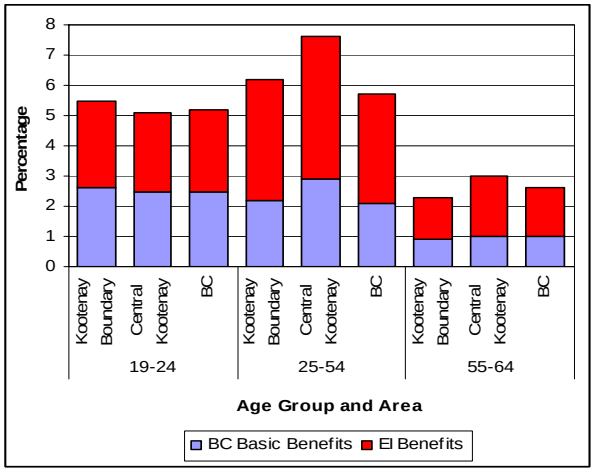
g) Income Source

Residents of the West Kootenay Region receive less of their total personal income from employment income than the provincial average. Residents of the Central Kootenay and Kootenay Boundary Regional Districts only receive approximately 69% and 70% of their respective incomes from employment compared to nearly 76% province-wide. In contrast, residents of the Central Kootenay and Kootenay Boundary Regional Districts receive approximately 17% and 16% of their respective incomes from government transfers compared to approximately 12% province-wide.

h) Social Safety Net

In Canada, data collected by BC Stats indicates that the number of residents in the West Kootenay Region that rely on provincial and federal social assistance programs is, in general, slightly higher than the provincial average. A total of 5.3% and 6.3% of residents aged 19-64 years in the Kootenay Boundary and Central Kootenay Regional Districts rely on social assistance programs compared to 5.1% throughout BC. **Figure 8** disaggregates the reliance on social programs to different age groups. The most substantial difference between the West Kootenay Region and the provincial average is among the 25-54 age group. Among this age group, 6.2% of Kootenay Boundary residents and 7.6% of Central Kootenay residents rely on social programs compared to 5.6% throughout BC. There is little difference between the West Kootenay Region and the provincial average among the 19-24 and the 55-64 age groups. In

Figure 8: Reliance on Social Programs, 2001



** Includes those receiving temporary assistance only. Excludes aboriginal people living on reserve, seniors/OAS, and children living with a relative.*
Source: BC Stats, Community Facts for Kootenay Boundary Regional District and Central Kootenay Regional District

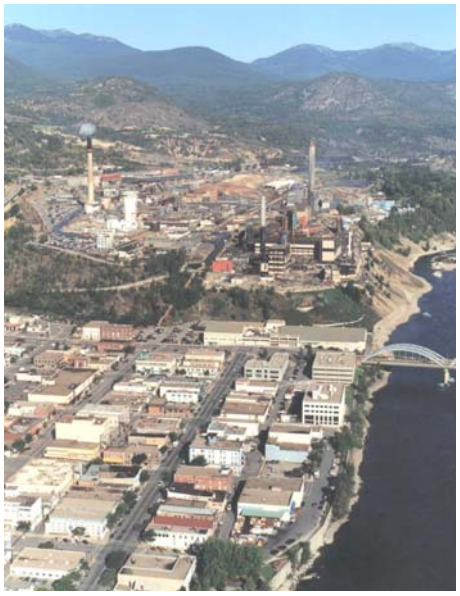
general, residents of British Columbia and the West Kootenay Region receive a higher proportion of their social assistance from employment insurance benefits than from BC basic income assistance.

1.1.1.3 Closer Look at Main Industries

A brief description of some of the more significant resource-based companies in the West Kootenay Region is provided below.

- **Teck Cominco Ltd** operates the world-class Trail Operations Metallurgical Facility in the City of Trail. The site employs roughly 1,500 personnel in 19 separate production facilities. Trail Operations' main products are refined zinc and lead, as well as silver and gold. Sixteen other types of metal and chemical products are also made within the facility. In general, raw materials are shipped by rail via Waneta or trucked from the Pend Oreille Mine in Metaline Falls, WA. Finished products are carried to markets south and west by both truck and rail.

Figure 9:
Teck Cominco Smelter in Trail



- **Pope & Talbot Ltd** is a forestry company based in Oregon with operations in Grand Forks, Midway, Castlegar and Nakusp. In particular:
  - *Grand Forks Mill* is a large producer of machine stress rated lumber. The mill processes multi-species woods, dominated by Spruce-Pine-Fir, Fir/Larch and Cedar. Located near the Canada–U.S. border, the facility has convenient access to U.S. rail and truck carriers.
  - *Midway Mill* is a large producer of machine stress rated lumber. Midway Mill was modernized and expanded in 1990. Located near the Canada-U.S. border, the facility has convenient access to U.S rail and truck carriers.
  - *Boundary Timber*, located in Midway, manages the forestry operations on a sustainable yield basis and provides logs to the Company's Midway and Grand Forks Lumber Mills.
  - *Castlegar* is Pope & Talbot's largest mill with production of approximately one million board feet per day. Product is heaviest to Spruce-Pine-Fir, supplemented with sizable percentages of Hemlock/Fir, Fir/Larch, and some Idaho White Pine. The mill has direct access to CP rail loadings, along with BN and UP reloads, making it easy to serve most markets across Canada and the United States.

– *The Arrow Lakes Timber* district is among the best tree-growing areas in the province. The terrain however, requires careful harvesting techniques. Approximately one third of the logging in the Arrow Lakes district is done with cable systems which lessen the need for skid roads. The company's log transportation system includes a marine division, which employs a small fleet of tugboats that move logs down the Arrow Lakes to the Castlegar sawmill.

- **Celgar Pulp Company** operates a pulp mill in Castlegar. Celgar is recognized as a producer of two grades of quality Northern Bleached Softwood Kraft pulps and produces 1200 tons per day at their mill in Castlegar. Celgar has no forest tenure and depends solely on external sources for its fiber. Two sources of fiber are used to meet Celgar's annual fiber demand. Residual chips are purchased from surrounding sawmills and chipping facilities and round wood pulp logs are purchased from local logging contractors and mills. According to the British Columbia Regional Index, there were between 400-500 employees at Celgar's Castlegar mill in 2002.

Figure 10:
Celgar Pulp Mill in Castlegar

- **Atco Lumber Ltd.** operates a veneer mill in Fruitvale. The veneer is sold to US markets, and by-products (spindle cords and chips) are sold in Canadian and US markets. Other wood products include lumber and landscape ties. Atco Lumber Ltd. is a family-owned operation that has grown over the past 40 years to a size that now employs approximately 250 people.

Figure 11:
Kalesnikoff Mill in Thrums

- **Kalesnikoff Lumber Company** operates a mill in the small community of Thrums (near Castlegar), on a terrace above the Kootenay River. The company specializes in niche markets and produces over 200 different specialty lumber products. It has been a permanent employer in the Castlegar area since 1939 and currently employs approximately 125 people.

- **Columbia Brewery** operates the Kokanee Brewery in Creston. Kokanee is distributed throughout British Columbia and to Ontario, Quebec and the Maritime provinces. There are approximately 90 employees at the Kokanee Brewery.

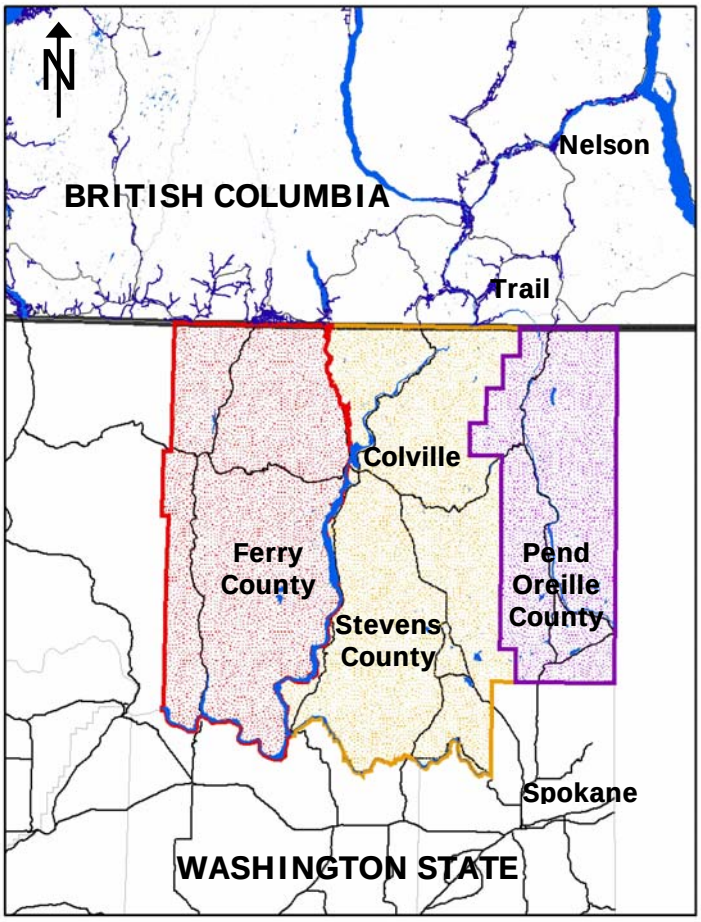
- **Firebird Technologies Inc.** was incorporated in Trail in 1991 to continue the compound semiconductor technology developed at Teck Cominco Electronic Materials. Firebirds' core competences which are semiconductor and related technologies, high purity metals, and management expertise.

- **FortisBC** is a wholly owned subsidiary of Fortis Inc., an international electric utility holding company based in Newfoundland & Labrador. FortisBC was created from the acquisition of the Western Canadian operations of Aquila Networks Canada in May 2004. FortisBC is an electric utility company that generates and distributes electricity to homes and businesses in South Central British Columbia. The company employs approximately 400 people throughout British Columbia, of which 140 are located in the West Kootenays. Within the next 18-24 months, FortisBC will create an additional 24-38 new positions in its Trail office, which is the base for the company's call centre in the province. FortisBC also has offices in the West Kootenay Region in Castlegar and Warfield.

1.1.2 Tri-County Region (Ferry, Stevens & Pend Oreille)

The Tri-County Region consists of Ferry, Stevens and Pend Oreille counties in northeast Washington State, which together form the Tri-County Economic Development District (TEDD) (**Figure 12**). The three counties came together to form a single economic development district because of their similar geographic and socio-economic characteristics. This region is bordered by British Columbia to the north, the state of Idaho to the east, Okanogan County to the west and Lincoln and Spokane counties to the south.

Figure 12: Detailed Map of Tri-County Region



The Tri-County Region has a total land area of 6,068 mi^2 (15,716 km^2) (approximately 9% of Washington State). In terms of geographic area, the largest county in this region is Stevens County, 2,468 mi^2 (6,392 km^2), followed by Ferry County, 2,200 mi^2 (5,698 km^2), and Pend Oreille County, 1,400 mi^2 (3,626 km^2).

The region has a population of just over 59,000 people. The region is sparsely populated, with a population density of less than 11 people/mi^2 (less than 4 people/km^2) and only 23% of the area's population living in incorporated cities. There are 12 incorporated cities in the Tri-County Region, and only 5 of these incorporated cities have populations greater than 500 people (**Table 4**).

The region is also home to several Native American reservations and, as such, has a significant Native American population. In 2000, Native Americans and Aleutians accounted for over 7% of the region's population, compared to only 3% throughout Washington State. Within the Tri-County Region, the Native American population varies

significantly, as Ferry County has a Native American population of nearly 21% compared to about 7% in Stevens County and 4% in Pend Oreille County.

Table 4: Incorporated Cities in the Tri-County Region

County	Incorporated Cities	Population (2001)
Stevens	Colville	5,010
	Chewelah	2,200
	Kettle Falls	1,550
	North Port	312
	Springdale	285
	Marcus	156
Pend Oreille	Newport	2,020
	Ione	475
	Metaline Falls	225
	Cusick	210
	Metaline	160
Ferry	Republic	975
	Curlew	1,165*

Source: Washington State Employment Security Department, Ferry, Stevens, Pend Oreille County Profile.
*Source: 2000 US Census

The three counties in the region have similar geographic features. The northern half of Ferry and Stevens counties and almost all of Pend Oreille County are dominated by dense, rugged, and mountainous terrain. To the south, the more mountainous terrain gives way to forested foothills, which in turn give way to drier hills and valleys dotted with low-lying vegetation. Lakes and rivers also have a significant influence on the region, with three major rivers (Columbia, Spokane and Pend Oreille) crossing or bordering the region.

The three counties also exhibit similar economic attributes, as all three counties have primarily resource-based economies. The main industries in the region include forestry, agriculture, mining, recreation and tourism.

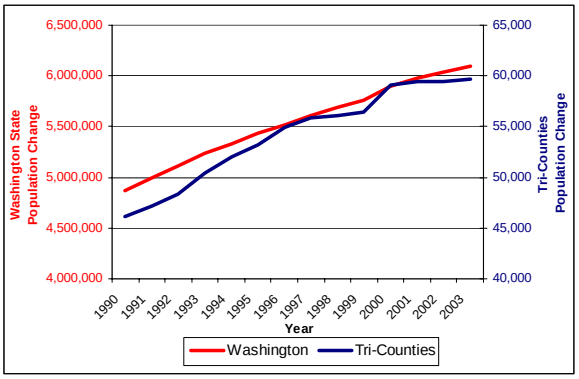
1.1.2.1 Demographic Profile

According to the 2000 Census, the Tri-County area had a population of 59,058, representing 1% of Washington State's total population (despite having about 9% of the state's land mass). Nearly 68% of the region's population lives in Stevens County (with a population in 2000 of 40,066 people). 11,732 people lived in Pend Oreille County and 7,260 lived in Ferry County in 2000. As mentioned earlier, the region has a population

density of less than 11 people/mi^2 (less than 4 people/km^2), significantly lower than the statewide population density of over 88 people/mi^2 (over 34 people/km^2).

The region's population grew by nearly 28% (12,900 people) between 1990 and 2000. This was a faster rate of growth than Washington State as a whole, which grew by just over 21% during this period. Population growth in the Tri-County area appears to have leveled off somewhat compared to Washington State since 2000 (**Figure 13**).

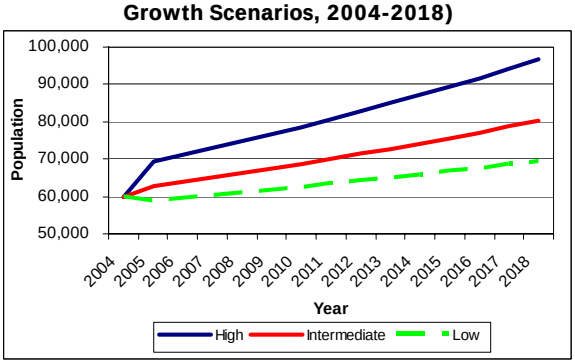
Figure 13: Population Change
(Tri-County Region and Washington State, 1990-2003)



Source: Washington State Workforce Explorer. Population figures from Office of Financial Management and 2000 Census.

The Washington State Office of Financial Management has generated population projections for each county in Washington State based on three different growth scenarios (high, intermediate and low growth scenarios). As shown in **Figure 14**, it is projected that between 2004-2018, the Tri-County region will experience significant growth, ranging from a 16% growth projection (or 9,424 people) in the low scenario, to 34% growth (or 20,309 people) in the intermediate scenario and 61% growth (or 36,661 people) in the high scenario. These growth projections are far more ambitious than the projections for Washington State as a whole over the same time period, which is projected to grow by 7% in the low growth scenario; 19% in the intermediate growth scenario; and 34% in the high growth scenario. Within the Tri-Country Region, the most significant population growth is expected to occur in Stevens County.

Figure 14: Population Projections
(Tri-County Region in High, Intermediate and Low Growth Scenarios, 2004-2018)

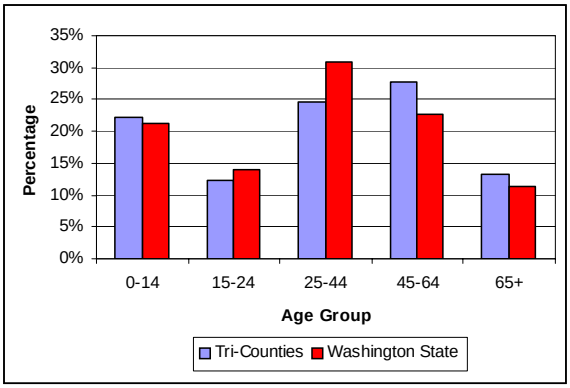


Source: Washington State Office of Financial Management, Official April 1, 2004 Population Estimates and Washington State County Growth Management Population Projections: 2000-2025.

The region is home to a very large rural population. In 2001, only 23% of the region's population lived in its 12 incorporated cities, while the remaining 77% lived in unincorporated rural areas. In addition, between 1990-2001, population growth in unincorporated areas exceeded population growth in incorporated cities almost threefold.

The Tri-County Region has an older population that the statewide average, with a higher proportion of residents aged 45 and over than Washington State as a whole (**Figure 15**). The most significant difference between the age distribution in the Tri-County Region and Washington State as a whole is that the Tri-County Region has a significantly smaller proportion of residents aged 25-44 (approximately 25%) than the statewide average (approximately 31%) and has a significantly higher proportion of residents aged 45-64 (approximately 28%) than the statewide average (approximately 23%).

Figure 15: Comparison of Age Characteristics
(Between Tri-County Region and Washington State, 2000)



Source: Tri-County Economic Development District and State of Washington Office of Financial Management, Profile of Selected Economic Characteristics: 2000 for Stevens County, Ferry County, Pend Oreille County, and Washington State.

1.1.2.2 Economic Profile

a) Major Industries

As shown in **Table 5**, the most significant industries in the Tri-County Region are (in order) educational, health & social services; manufacturing; retail trade; recreation, accommodation & food services; construction; and agriculture, forestry & mining. Together these six industry sectors account for nearly 71% of the region's labour force.

Table 5 also shows that the Tri-County Region has a significantly larger labour force in the agriculture, forestry & mining sector than throughout Washington State. In contrast, the region has a significantly smaller labour force in the finance, insurance & real estate sector and in the professional & administrative services sector than in Washington State as a whole.

Table 5: Labour Force By Industry
(Tri-County Region and Washington State, 2000)
(Ranked According to Percentage of Labour Force per Industry in the Tri-County Region)

Industry	Tri-County Region	Washington State	Difference Between Tri-County Region & Washington State
1. Educational, Health & Social Services	5,080 *(22.8%)*	541,214 *(19.4%)*	**+3.4%**
2. Manufacturing	2,918 *(13.1%)*	348,646 *(12.5%)*	+0.6%
3. Retail Trade	2,391 *(10.7%)*	338,772 *(12.1%)*	-1.4%
4. Recreation, Accommodation & Food Services	1,838 *(8.3%)*	221,656 *(7.9%)*	+0.4%
5. Construction	1,741 *(7.8%)*	194,871 *(7.0%)*	+0.8%
6. Agriculture, Forestry & Mining	1,728 *(7.8%)*	68,976 *(2.5%)*	**+5.3%**
7. Public Administration	1,457 *(6.5%)*	140,940 *(5.0%)*	+1.5%
8. Transportation & Utilities	1,340 *(6.0%)*	150,985 *(5.4%)*	+0.6%
9. Other Services	1,247 *(5.6%)*	135,379 *(4.8%)*	+0.8%
10. Professional & Administrative Services	883 *(4.0%)*	272,466 *(9.8%)*	**-5.8%**
11. Finance, Insurance & Real Estate	819 *(3.7%)*	170,622 *(6.1%)*	**-2.4%**
12. Wholesale Trade	494 *(2.2%)*	113,526 *(4.1%)*	-1.9%
13. Information	331 *(1.5%)*	95,669 *(3.4%)*	-1.9%

Source: Tri-County Economic Development District and State of Washington Office of Financial Management, Profile of Selected Economic Characteristics: 2000 for Stevens County, Ferry County, Pend Oreille County, and Washington State.

b) Further Information Regarding Major Industries

Agriculture

The bulk of the agricultural employment in the region is in crop production. Within the agricultural sector, there is also some employment in livestock and agricultural services. A small number of people are also employed in forestry (e.g. maintaining timber tracts).

Mining

Employment in the mining sector declined by 9% from 1995-2000. The mining industry is particularly significant in Ferry County, where mining accounts for the majority of employment (in fact, the agriculture, forestry & mining sector accounts for nearly 13% of Ferry County's employment compared to nearly 8% throughout the Tri-Counties and 2.5% throughout the state). The mining sector is also significant in Pend Oreille County, due in large part to the Teck Cominco Mine in Metaline Falls. The mining sector is particularly significant in terms of average wages, because the mining sector is the only industry sector in the Tri-County Region with average wages higher than the state average. Stevens County has virtually no mining activity.

Manufacturing

Manufacturing is one of the most significant industrial sectors in the Tri-County Region. A strong manufacturing sector is vital to an area's economy for a number of reasons. Many manufacturing industries have the ability to generate additional jobs in an area, creating a multiplier effect. For example, a manufacturing plant will typically require suppliers, business services, etc. at a higher rate than industries in other sectors. The most significant component of the manufacturing sector in the region is lumber and wood processing. This component, which includes logging, sawmills, planning mills, etc, accounts for over half of the manufacturing sector's employment in the region. In Stevens County, lumber and wood processing is the largest component of the manufacturing sector, although there is also significant manufacturing employment in primary and fabricated metals as well as industrial machinery. In Pend Oreille County, lumber and wood processing is the second largest manufacturing industry after paper mills. Almost 90% of Ferry County's manufacturing sector employment comes from lumber and wood processing. Combined, Tri-County employment in lumber and wood processing totals 1,500 workers; primary metals provided the second highest employment followed by Chemicals and Allied Products. According to the Washington State Employment Security Department, manufacturing is expected to decline somewhat through 2008 (a 2.6% decrease in sector employment was projected between 2000 and 2008).

c) Labour Force

In the United States, labour force is defined as consisting of all people aged 16 years and older that are either working or actively seeking work. Labour force information is often further disaggregated into the armed forces and the civilian labour force. For the purposes of this report, only the civilian labour force has been included in the analysis. In 2000, the Tri-County Region had a total population aged 16 and over of 44,882 and a total civilian labour force of 25,054. Nearly 69% of the regional labour force is located

in Stevens County. Stevens County has also experienced the fastest growth in its labour force among the three counties in recent years, having grown by 182% since 1970.

d) Income

In 2000, the average annual wage in the Tri-County Region was USD$24,915, far less than the statewide average of USD$37,063.[1] The Washington State Employment Security Department cautions the use of this statewide average, however, because this average is strongly influenced by the relatively high wages found in the high-tech and aerospace industries in the Puget Sound region. Within the Tri-County Region, the highest average annual wage is found in Pend Oreille County, likely due to its concentration of workers in the relatively high paying manufacturing and government sectors.

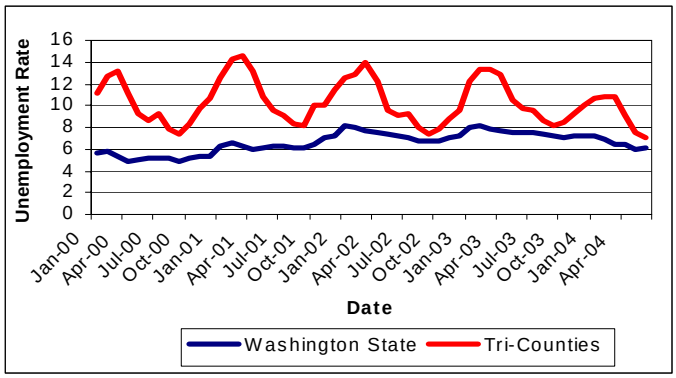
e) Participation and Unemployment Rates

This Tri-County Region has a participation rate of nearly 56%, which is significantly lower than the Washington State average of approximately 65%.

In 2000, the unemployment rate in the Tri County Region was 11.1% compared to 6.2% in Washington State. The unemployment rate has historically been higher in the Tri-County Region than Washington State as a whole. It should be noted, however, that there is significant internal variation in this regional unemployment rate, as Ferry County had an unemployment rate of 18.8% in 2000.

Although the unemployment rate in the Tri-County Region was found to be 11.1% in 2000, the unemployment rate is a dynamic figure that can be subject to significant fluctuations over relatively short periods of time (e.g. on a monthly or seasonal basis). In order to account for these variations, **Figure 16** shows the monthly average unemployment rate in the Tri-County Region and in Washington State between 2000 and 2004. This figure shows

Figure 16: Monthly Unemployment Rate
(Tri-County Region and Washington State, 2000-2004)



Source: Washington State Workforce Explorer Labour Force Statistics

[1] Average annual wages are 'covered', meaning they are based on the total of wages and salaries paid to employees covered by the unemployment insurance program, divided by the annual average number of employees. Covered employment and wage figures account for over 85% of the state's workers.

that the Tri-County Region is more susceptible to seasonal variations in the unemployment rate than Washington State as a whole. This seasonal variation is likely a result of the dominance of the agricultural sector throughout the Tri-County Region.

f) Income Source

Personal income encompasses several types of income. All the various types of income, however, can be subsumed under the three broad categories of earnings, transfer payments, and investment income. Earnings include wages and salaries, proprietor's income, and "other" labour force income; Transfer Payments include income maintenance, unemployment insurance, and retirement payments; Investment Income consists of interest, dividends, and rent. Generally, the most significant component of personal income is earned income, although the importance of earned income is declining relative to transfer payments and investment income in the Tri-Counties.

In 1999, earnings in the Tri-County Region accounted for 64% of personal income (compared to 78% in 1970), while transfer payments accounted for 19% (compared to 11% in 1970) and investment income represented 17% of personal income in 1999 (compared to 12% in 1970).

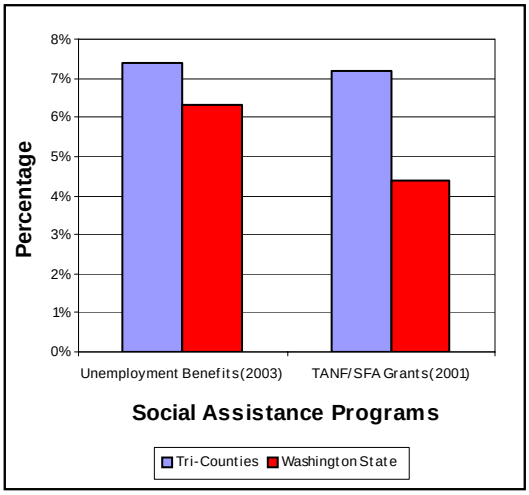
g) Social Safety Net

In the United States, the Federal-State unemployment insurance program provides temporary financial assistance to eligible workers who become unemployed through no fault of their own (as determined under state law), and meet certain other eligibility requirements of state law. Each state administers a separate unemployment insurance program within federal guidelines established by the United States Department of Labor. Unemployment benefits include regular Unemployment Insurance, Temporary Emergency Unemployment Compensation (TEUC), Additional Temporary Emergency Unemployment Compensation (TEUC-A), Training Benefits and Extended Benefits.

Statistics regarding the proportion of the population claiming such unemployment benefits are indicators of the overall economic vitality of a region. As shown in **Figure 17**, in 2003 the Tri-County Region had a higher percentage of the population claiming these unemployment benefits (over 7%) than Washington State as a whole (over 6%). Within the Tri-County Region, however, Ferry County was significantly higher than the Washington State average with more than 8% of its population claiming these unemployment benefits in 2003.

Another indicator of the economic health of a region is the proportion of the population that accesses welfare or social assistance programs. In 1996, the United States Government created the federal *Temporary Assistance for Needy Families* (TANF) program. The TANF program was created to emphasize work and responsibility over dependence on government benefits and, as such, was designed to move families on welfare into employment as quickly as possible. As shown in **Figure 17**, the Tri-County Region had a significantly higher proportion of its population claiming TANF grants or State Family Assistance (SFA) grants than the Washington State average. In particular, Ferry and Pend Oreille counties had approximately double the statewide average of its population claiming TANF/SFA grants that the Washington State average. It should be noted, however, that this is not a comprehensive list of social assistance programs but is provided simply to provide an overview of the region's dependency on social assistance programs compared to the Washington state average.

Figure 17: UI Benefits and TANF/SFA Grants
(Tri-County Region and Washington State, 2001 and 2003



Source: Access Washington, Unemployment Benefit Payments by County 2003; Washington State Office of Financial Management, Historical/Current Data Set: Total Resident Population by Year by County, Washington, 1960 to 2003; and Washington State Department of Social and Health Services, Residents Receiving DSHS Services and DSHS Service Expenditures, SFY 2001

1.1.2.3 Closer Look at Main Industries

Table 6 provides an overview of the major employers in the Tri-County Region. A brief description of some of the more significant resource-based companies in the Tri-County region is also provided below.

- **Boise Cascade Corporation** operates a manufacturing plant for lumber/plywood/veneer in Kettle Falls and employs over 370 people.

- **Vaagen Bros. Lumber** is a forestry company with about 200 employees at its head office and mill in Colville. The company specializes in small logs and dimension lumber, produces wood byproducts, and buys slogs and timberland.

- **Stimson Lumber**, which has its headquarters in Oregon, operates a mill in Colville as part of its inland operations. This mill has about 200 employees.

- **Colmac Industries** is one of the world's leading manufacturers of commercial and industrial plate fin heating & cooling coils, fluid coolers, refrigeration air coolers and condensers, heat pipe coils, and air source heat pump water heaters. Colmac has a 200,000 sq. ft. manufacturing campus, corporate offices, and testing facilities in Colville along with about 150 employees (**Figure 18**).

Figure 18:
Colmac Coil Operations in Colville

- **Teck Cominco** employs about 55 workers at its new mine in Pend Oreille County. Production at the mine began in early 2004 and the mine is expected to attain an annual production rate of 83,000 tonnes of zinc concentrate and 15,000 tonnes of lead concentrate. This underground room and pillar operation is expected to produce concentrates to feed the Trail smelter for a period of eight years.

- **Kinross Mines** is a major employer in Ferry County and operates a mine of 3,075 ha in Kettle River. Since 1989, production from open pit and underground mines has exceeded 1.37 million ounces of gold.

Table 6: Major Employers in the Tri-County Region

County	Employer	# of Employees
Stevens	Colville National Forest	Summer 470; Winter 350
	Boise Cascade Corp.	372
	Colville School District	325
	Stevens County	325
	Aladdin Hearth Products	245
	Vaagen Bros. Lumber	200
	Stimson Lumber	200
	Walmart	200
	N.E. WA Rural Resources	200
	Colmac Industries	150
	Hewescraft Marine	114
Pend Oreille	Ponderay Newsprint Co.	207
	Selkirk School District	75
	Ponderay Valley Fibre	72
	Seattle City Light	64
	Teck Cominco	55
	Cusick School District	50
	Public Utilitiy District	23
	Northwest Steel Fabrication	21
	Pend Oreille Valley Railroad	18
Ferry County	Kinross Mines	N/A
	Ferry County	101
	Republic School District	N/A

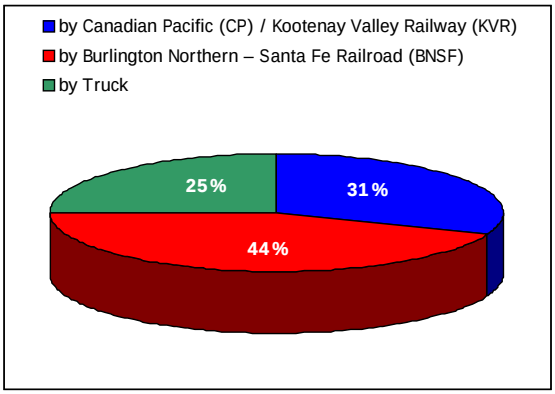
Source: Stevens County Website and Pend Oreille County Website and personal communication with Ferry County Treasurer
Note: this is not a comprehensive list of major employers in the region.

1.1.3 Freight & Traffic Movement Patterns

As the West Kootenay Region and Tri-County Region are resource based economies, it is not surprising that the dominant industries also make up the majority of industrial traffic demands. In particular the forest and mining/smelting industries are required to ship raw materials into the region for processing and ship processed or finished products out to market. While much of this is done using existing rail lines, a significant proportion of these freight movements must be trucked either to their final destination or to a truck/rail reload center.

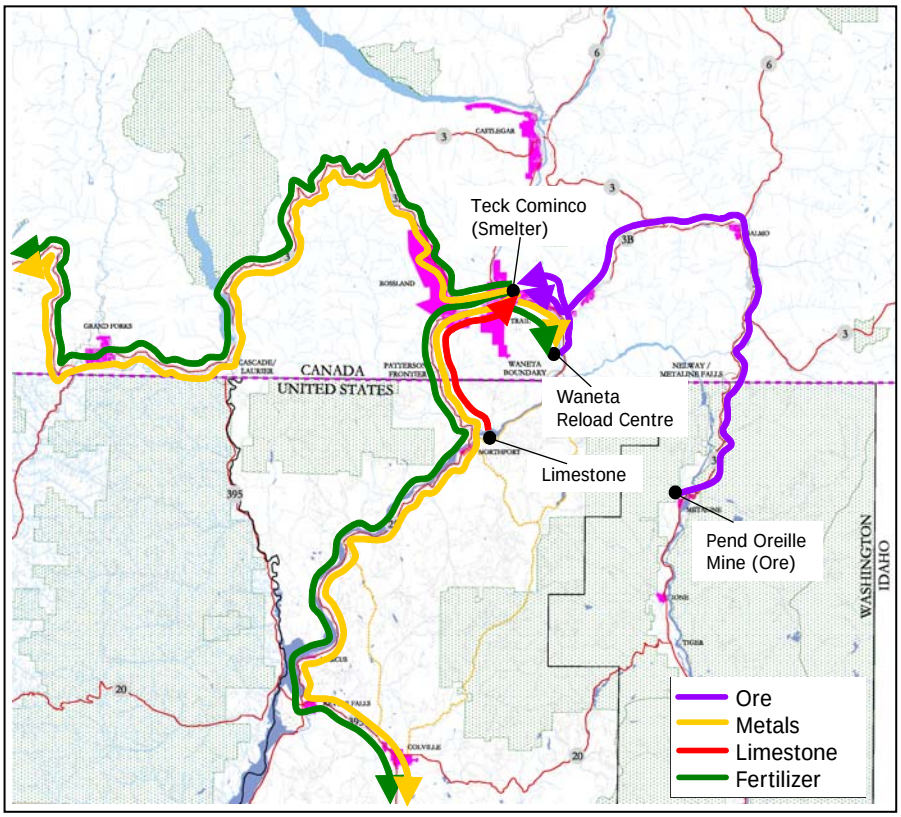
In the case of mining/smelting activities, raw materials such as metal ore and concentrates, must be carried in from as near as Northport and Metaline Falls or from

locations as distant as Alaska. In addition, other materials such as industrial chemicals used in the processing of metals are brought in by both truck and rail. Finally, finished products are carried out of the region to markets in both North America and around the world. Freight distribution data provided by Teck Cominco Ltd indicates that of all raw materials or products shipped in 2004 (% of total metric tonnes):

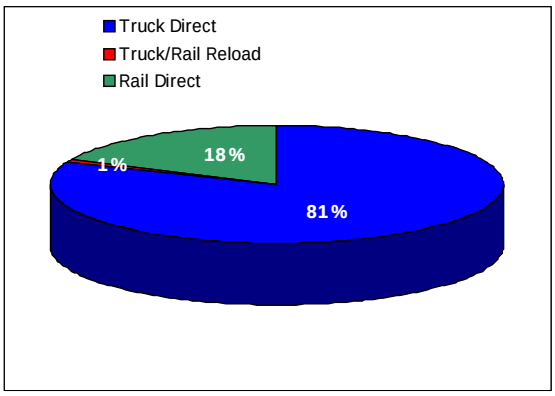


It should be noted that all freight using the BNSF line must be trucked to/from the reload centre in Waneta, BC to the Teck Cominco facility in Trail, BC approximately 16 km (10 Mi) away. **Figure 19** illustrates the movement of industrial truck traffic with respect to the mining / smelting industries.

Figure 19: Mining / Smelting Freight Movement

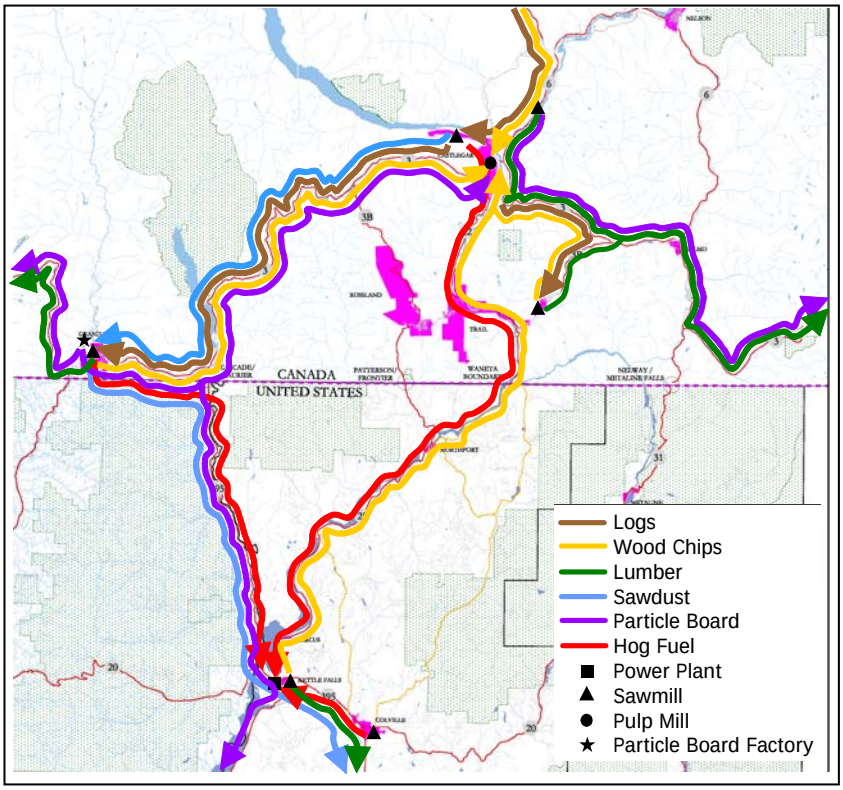


Similarly, the forest industry moves a variety of raw materials, wood products, and industrial chemicals throughout the region. While both truck and rail modes are utilized, the forest industry is much more truck dependant. According to data compiled in the Kootenay Boundary Transportation Systems Strategy Report (1996) the following mode distribution (by % of total truckloads or equivalent truckloads) can be assumed for the movement of forest products:



As with the Mining/Smelting industries there is significant movement of both raw materials and finished products throughout the region, across the border, and to markets across North America and around the world. **Figure 20** illustrates the movement of forest industry related truck traffic.

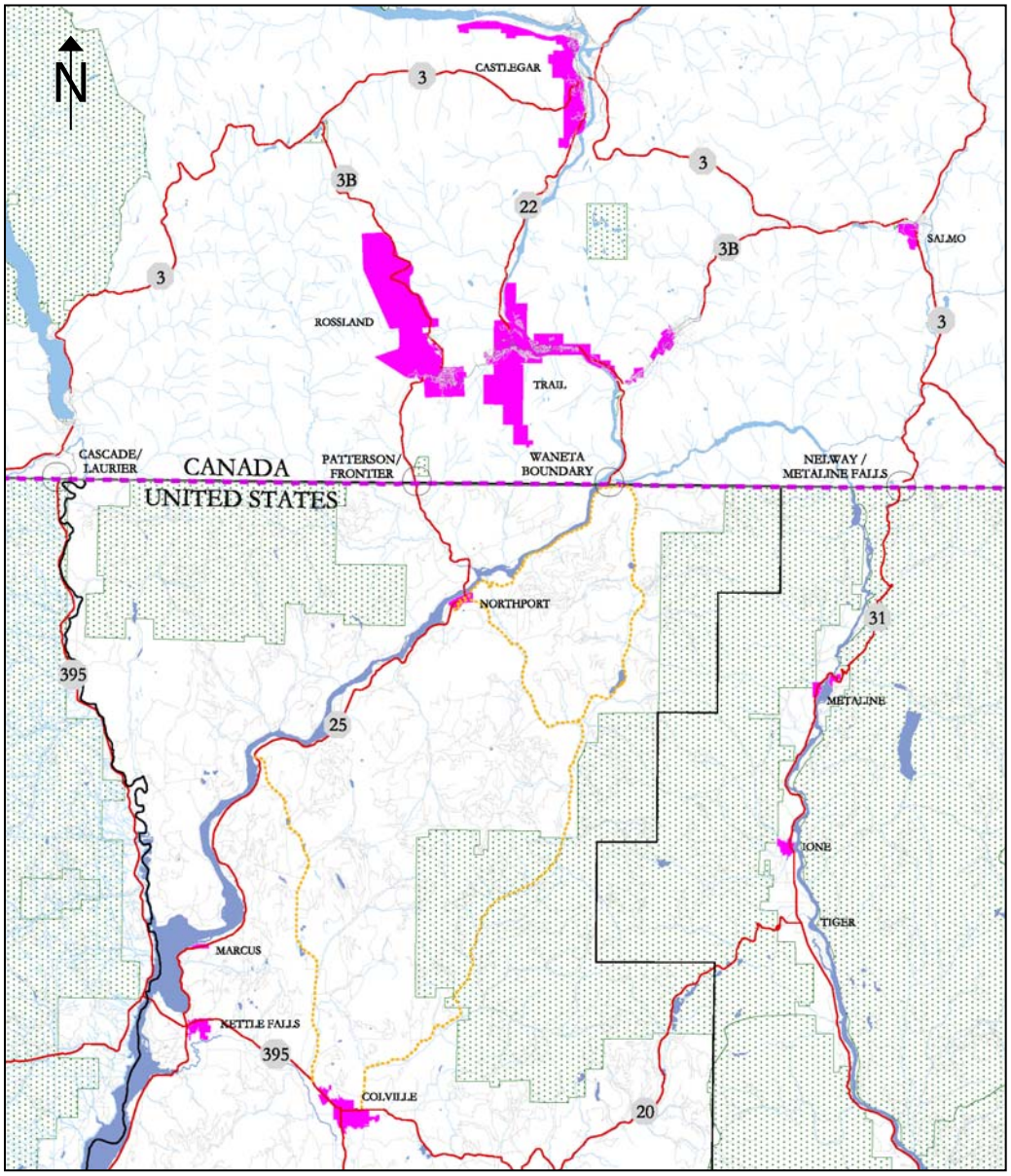
Figure 20: Forest Industry Freight Movement



1.2 Highway Performance Profile

Basic performance parameters for the principal existing highway corridor routes within the study area are captured for consideration within this section. These routes are illustrated in **Figure 21.**

Figure 21: Existing North-South Corridors



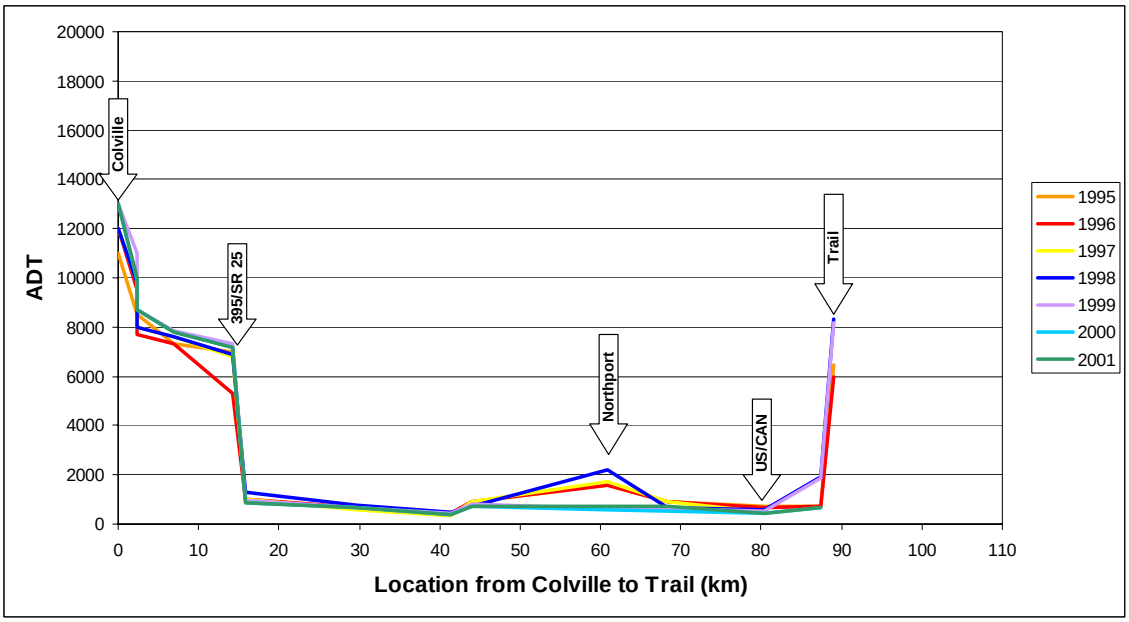
1.2.1 US 395, SR 25, Hwy 22 & 3B – via Patterson/Frontier

This is the primary existing corridor between the Trail, BC region and the US 395 corridor (Colville, WA). Since the Patterson/Frontier border crossing is the only 24 hour crossing in the area, this corridor serves as the primary commercial corridor.

US 395 connects Colville to Kettle Falls and from Colville eventually reaches Spokane, WA and the I-90 corridor. From Kettle Falls to Northport SR 25 is a two lane all-weather rural highway over rolling terrain. The highway then begins to climb as it crosses the border turning into Hwy 22 eventually reaching a highpoint of 1070m (3510 ft) in Rossland, BC. Highway 22 is also a two lane rural highway dominated by the long climb from the border to downtown Rossland where grades frequently exceed 5%. Hwy 22 meets Hwy 3B in Rossland where it descends into downtown Trail. This 10 km section of Hwy 22/3B is also known as the Warfield Hill and has consistent grades between 8-10%. Hwy 22/3B makes use of several climbing/crawling lanes, truck runaway lanes and a truck arrestor bed. In addition, a truck chain-up area is located at the base of the hill for use in adverse weather conditions.

Average Daily Traffic volumes for this corridor are illustrated below in **Figure 22**. Data was complied from traffic counts available from Washington State Department of Transportation's Annual Traffic Reports and from the British Columbia Ministry of

Figure 22: Average Daily Traffic – Patterson/Frontier Corridor



Transportation Traffic Count Program. As expected traffic volumes at either end of the route (near downtown Colville and downtown Trail) are relatively high. A significant

drop in daily traffic volume can be seen where SR 25 begins and across the US – Canada boundary indicating the relative remoteness of the route. A peak in traffic can be seen in the Northport region, and the variation between years can be attributed to the fact that data was not available at this location from 1999 to 2001.

1.2.1.1 Patterson/Frontier Border Crossing

As the only 24 hour crossing in the area, the Patterson/Frontier border crossing sees a significant amount of commercial truck traffic. Freight passing through this crossing consists primarily of northbound wood chips destined for the Celgar Pulp Mill in Castlegar, hog fuel headed southbound for the Kettle Falls Co-Generation Plant, and Limestone/Silica headed northbound from Northport to Teck Cominco in Trail.

Figures 23 and 24 show the number of northbound and southbound border crossings between 1998 and 2001 compiled from data provided by both US and Canadian Customs Agencies. As expected, while overall crossings are low in both directions, the percentage of commercial vehicles and trucks is quite high. Northbound commercial vehicles account for up to 50% of total traffic at the Patterson border facility. In the southbound direction trucks account for nearly 40% of all traffic at the Frontier border facility.

Figure 23: Annual Northbound Crossings at Patterson, BC

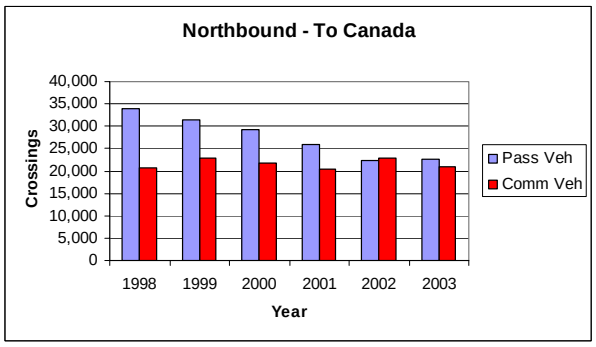
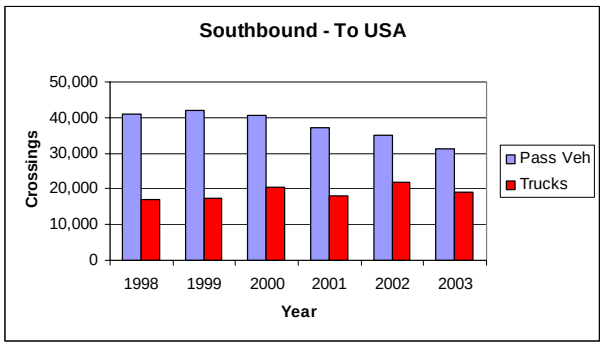


Figure 24: Annual Southbound Crossings at Frontier, WA



Northbound border crossings are summarized by month in **Figure 25** for the Patterson, BC border facility between 1998 and 2003. **Figure 26** illustrates monthly southbound border crossings at the Frontier, WA facility for the same years. As would be expected for a heavily commercial route, border crossing activity remains relatively flat throughout the year.

Figure 25: Monthly Northbound Crossings at Patterson, BC

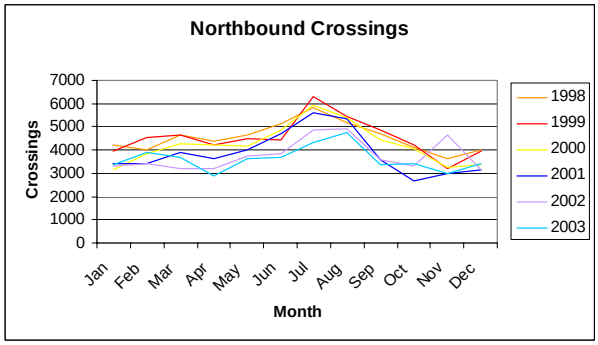
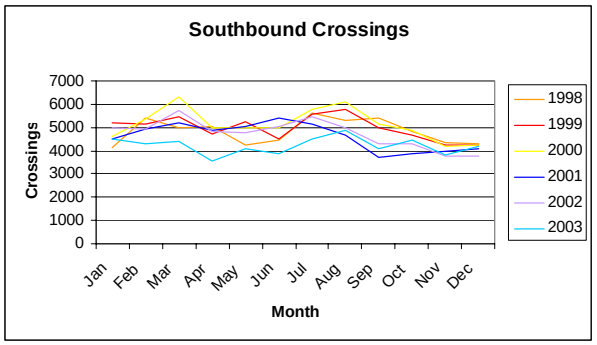


Figure 26: Monthly Southbound Crossings at Frontier, WA

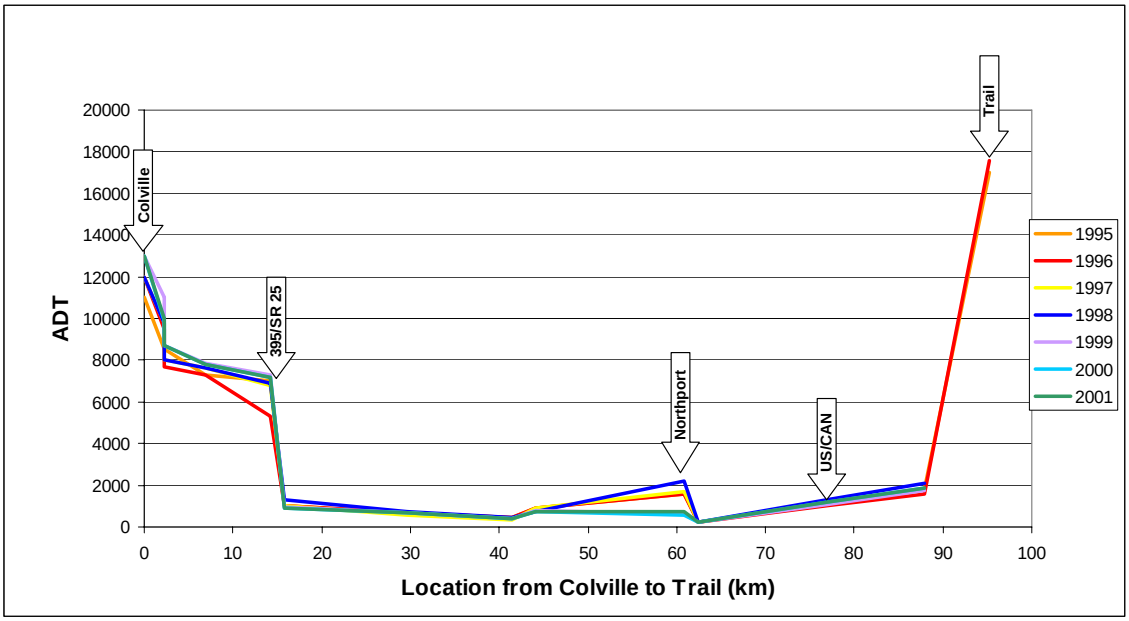


1.2.2 US 395, SR 25, Boundary Rd, Hwy 22A & 3B – Via Waneta/Boundary

From Colville this route follows US 395 to Kettle Falls then SR 25 until Northport. At this point the route follows the Columbia River valley toward the Waneta / Frontier border crossing on the Northport-Boundary Road (Old State Road 251). This is a county road with substandard geometry and is subject to seasonal closures. Due to the frequent sharp curves and a narrow cross-section, trucks over 40 feet (12 meters) are prohibited from using this route. This restriction, in addition to an 8 hour customs operation (9am-5pm Daily) effectively close this route to commercial truck traffic. On the Canadian side, Hwy 22A connects the border with Hwy 3B just east of Trail. Hwy 22A is two lane rural highway with reasonably good geometry, however there is currently a one lane bridge over the Pend Oreille River. From 22A this route continues into downtown Trail from the east along Hwy 3B. Overall this corridor has relatively low grades over level-rolling terrain as it follows the Columbia River Valley from Kettle Falls right into Trail. In addition, this route is currently the most direct route between Colville and Trail.

Figure 27 below summarizes the Average Daily Traffic volumes along this route based on data that was complied from Washington State Department of Transportation's Annual Traffic Reports and from the British Columbia Ministry of Transportation Traffic Count Program. As with the Patterson/Frontier route traffic volumes near downtown Colville and downtown Trail are relatively high while a significant drop in daily traffic volume can be seen where SR 25 begins and across the US – Canada boundary. The variation between years in the Northport area can be attributed to the fact that data was not available at this location from 1999 to 2000.

Figure 27: Average Daily Traffic – Waneta/Boundary Corridor



1.2.2.1 Waneta/Boundary Border Crossing

Due to the prohibition of trucks over 40 ft (12 m) on the Northport-Boundary Road and the limited hours of operation at both US and Canadian Customs facilities (9am-5pm Daily) it is not surprising that commercial truck traffic is virtually non-existent in both northbound and southbound directions, see **Figures 28 & 29.** On the other hand, passenger vehicle traffic is in fact higher than at the Patterson/Frontier crossing despite the limited hours of operation. This is likely due to the reduced elevation of the route and the limited truck traffic though the Waneta/Boundary crossing.

Figure 28: Annual Northbound Crossings at Waneta, BC

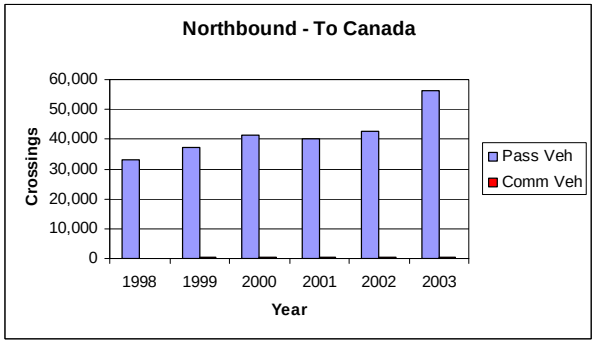
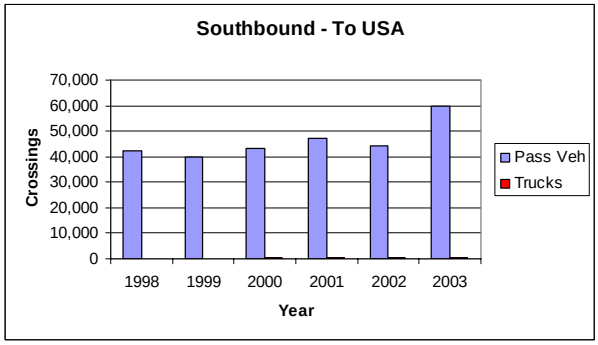


Figure 29: Annual Southbound Crossings at Boundary, WA



Figures 30 & 31 summarize the monthly northbound and southbound border crossings at the Waneta, BC and Boundary, WA border facilities.

Figure 30: Monthly Northbound Crossings at Waneta, BC

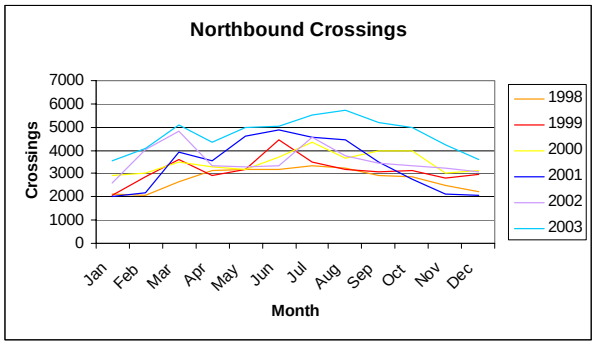
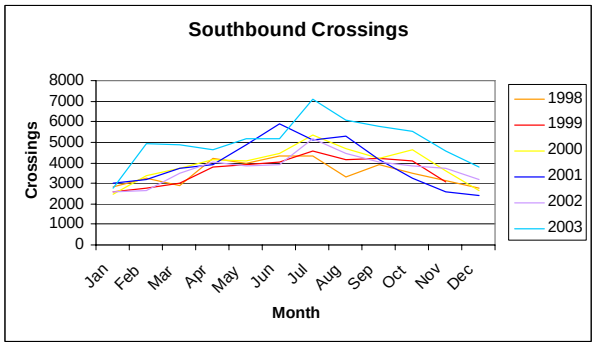


Figure 31: Monthly Southbound Crossings at Boundary, WA

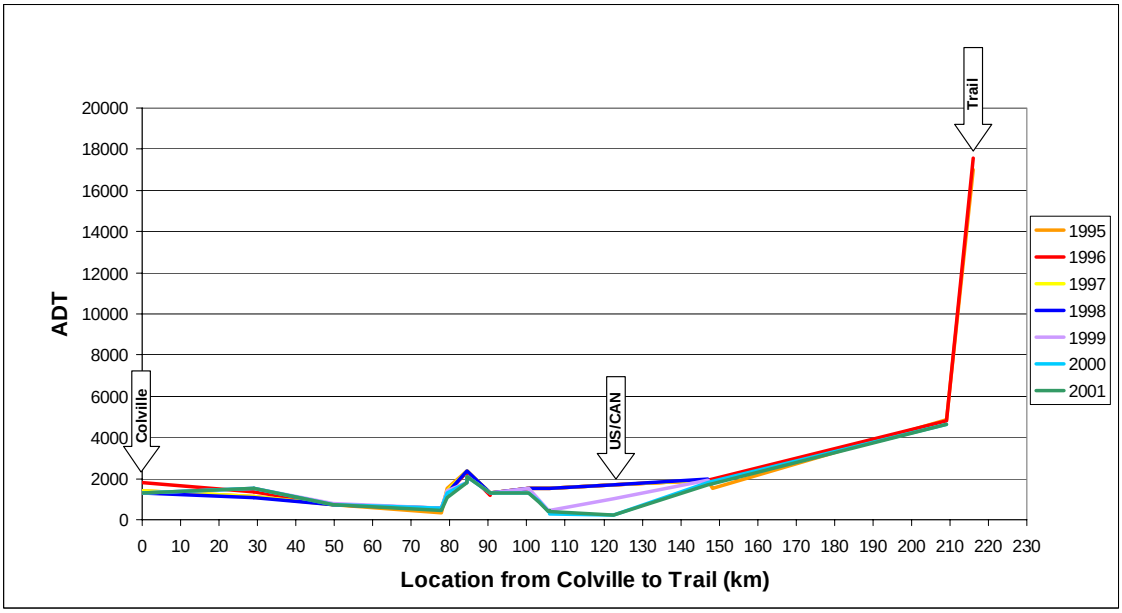


1.2.3 SR 20, 31, Hwy 6, 3, 3B – via Nelway/Metaline Falls

This route follows SR 20 east of Colville to SR 31 at Tiger. SR 20 is a two lane all-weather rural highway over rolling terrain, with the exception of an approximately 4km section of steep 6-7% grades just west of the SR 31 junction. From Tiger SR 31 proceeds north to the Nelway/Metaline Falls border crossing. From the border this route follows Hwy 3 and 3B through Salmo into downtown Trail.

Figure 32 below summarizes the Average Daily Traffic volumes along this route based on data that was complied from Washington State Department of Transportation's Annual Traffic Reports and from the British Columbia Ministry of Transportation Traffic Count Program. As with SR 25, this route experiences comparatively low volumes to the US/Canada boundary. Volumes are shown to increase as the route passes through Salmo and into downtown Trail via Highway 3 and 3B.

Figure 32: Average Daily Traffic – Nelway/Metaline Falls Corridor



1.2.3.1 Nelway/Metaline Falls Border Crossing

This crossing operates between 8am – midnight daily and currently processes commercial traffic from the Teck Cominco mine in Metaline Falls in particular. **Figures 33 & 34** summarize the annual northbound and southbound crossings at Nelway, BC and Metaline Falls, WA. Truck percentages are found to be approximately 17% southbound and approximately 30% northbound. In addition, total traffic is somewhat less than both the Patterson/Frontier and the Waneta/Boundary crossings.

Figure 33: Annual Northbound Crossings at Nelway, BC

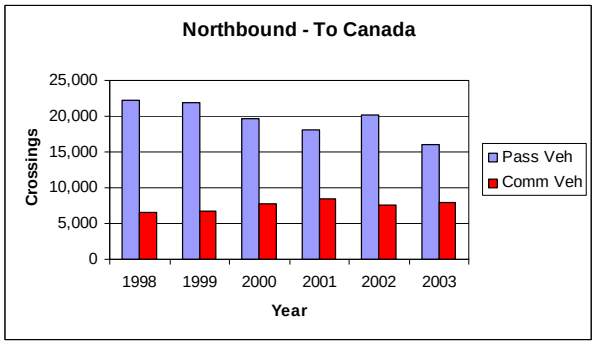
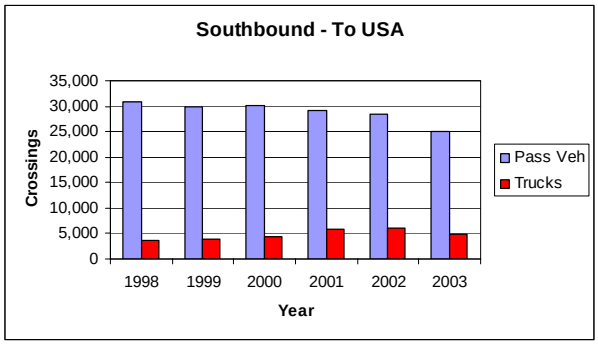


Figure 34: Annual Southbound Crossings at Metaline Falls, WA



Figures 35 & 36 summarize the monthly northbound and southbound border crossings at the Nelway, BC and Metaline Falls, WA border facilities.

Figure 35: Monthly Northbound Crossings at Nelway, BC

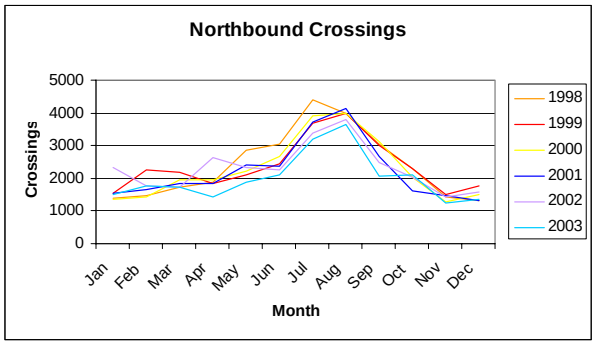
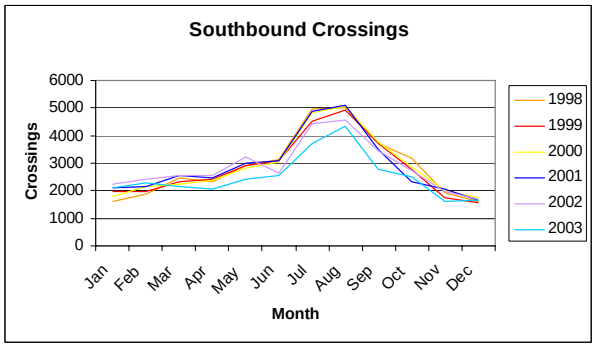


Figure 36: Monthly Southbound Crossings at Metaline Falls, WA

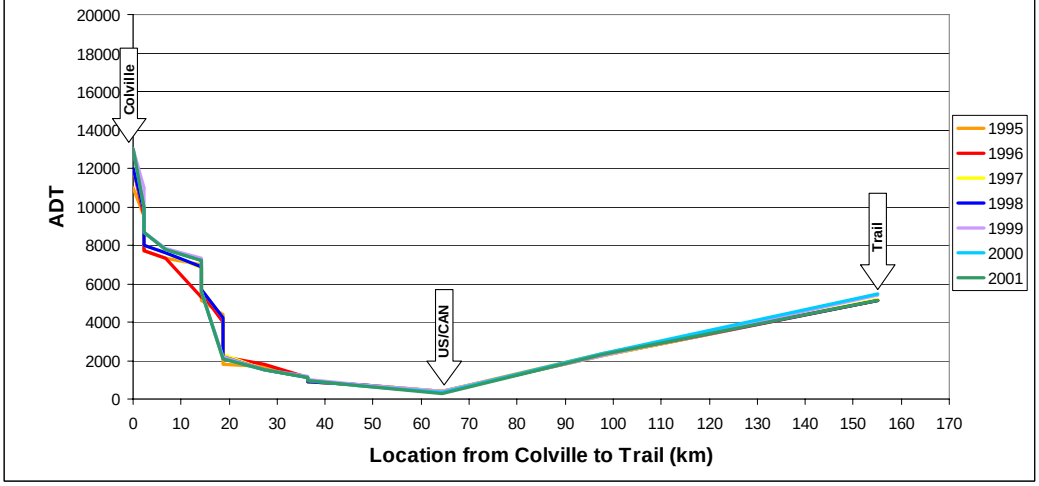


1.2.4 US 395, Hwy 3, 22 – Colville to Trail (via Castlegar)

Using the US 395 corridor from Colville to the US/Canadian border, this route is part of the US National Highway System. As such, US 395 is designated as important to interregional travel and commerce and will be the focus of potential improvements. Between Kettle Falls and the international border US 395 is a two lane rural highway over rolling terrain. This section has occasional narrow sections and some reduced speed curves. At the border at Cascade, BC and Laurier, WA this route follows Highway 395 to Highway 3. Highway 3 is a principal east-west connection in the region and this route climbs significantly from this point on. The route climbs over the Rossland Range through Paulson Pass and 1570 m (5151 ft) with grades consistently at 6%. In order to avoid further high elevations and the Warfield Hill this variation of the route proceeds past the Highway 3B turn-off to Castlegar. At this point the route follows Highway 22 south from Castlegar into Trail. Both Highway 3 and 22 are two lane rural arterials which provide climbing lanes on significant grades and frequent passing opportunities.

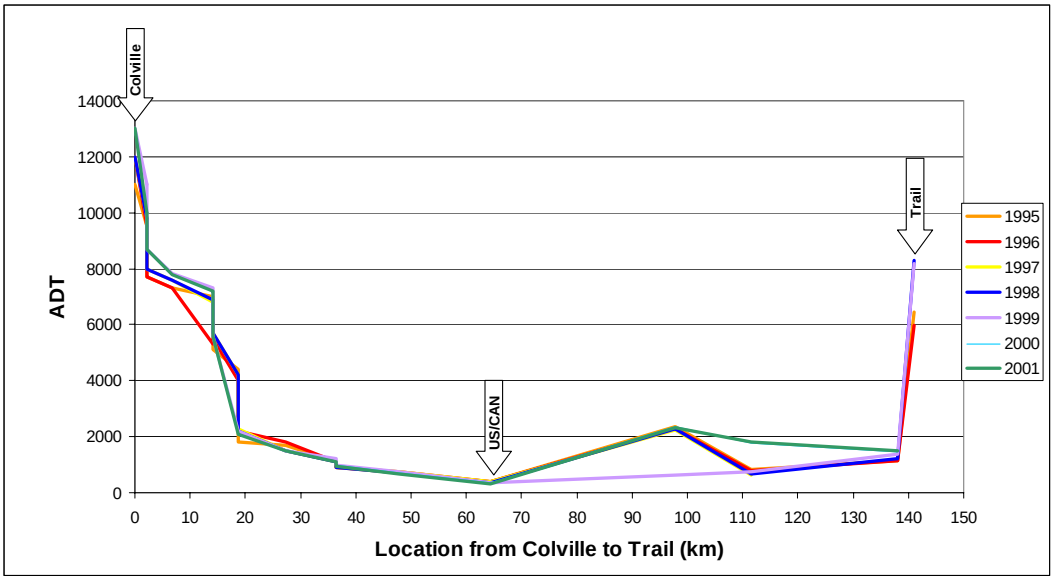
Figure 37 illustrates average daily traffic volumes along this route. As with previously described routes, the highest daily volumes can be found nearest to downtown Colville gradually reducing towards the international boundary.

Figure 37: Average Daily Traffic – Cascade/Laurier Corridor



A second variation of this route is to take Highway 3B at Nancy Green Lake (from Highway 3) and proceed through Rossland and down the Warfield Hill into Trail. While this route is shorter that going through Castlegar, there is significant elevation and grades along Highway 3B and this route still makes use of the Warfield Hill. **Figure 38** illustrates average daily traffic volumes along this route. Along Highway 3 (at approximately 100-110 km form Colville), a variation in traffic volumes can be seen between various years. This variation is explained by the fact that traffic data was not available in this location for all years cited, therefore occasional data points do not exist in all years.

Figure 38: Average Daily Traffic – Cascade/Laurier Corridor



1.2.4.1 Cascade/Laurier Border Crossing

The Cascade / Laurier border is a popular crossing for both passenger and commercial traffic. This crossing sees a significant amount of summer tourist traffic destined northbound for Christina Lake and the Okanagan Region (via Highway 33) and southbound for the Spokane, WA Region. In addition, significant commercial truck traffic uses this route, primarily to/from the Canpar and Pope & Talbot facilities in Grand Forks, BC. Truck percentages were found to be approximately 20% in both directions at this crossing. **Figures 39 & 40** summarize the annual crossings in both northbound and southbound directions between 1998 and 2003.

Figure 39: Annual Northbound Crossings at Cascade, BC

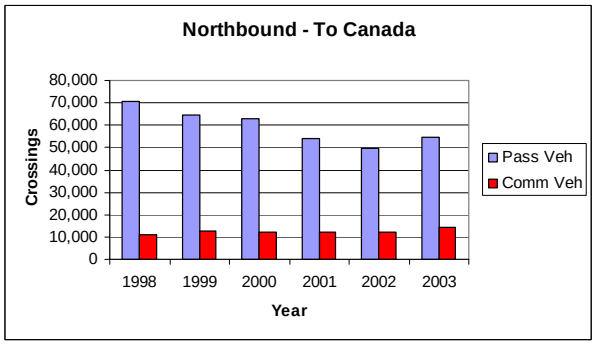


Figure 40: Annual Southbound Crossings at Laurier, WA

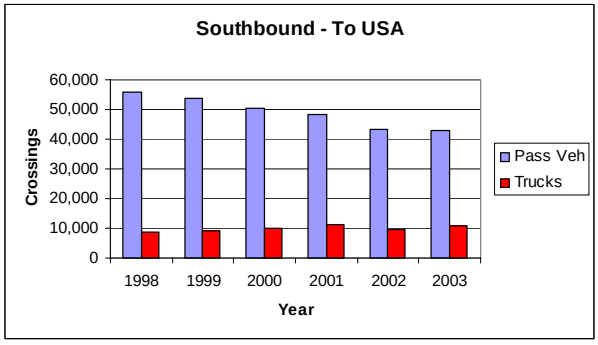
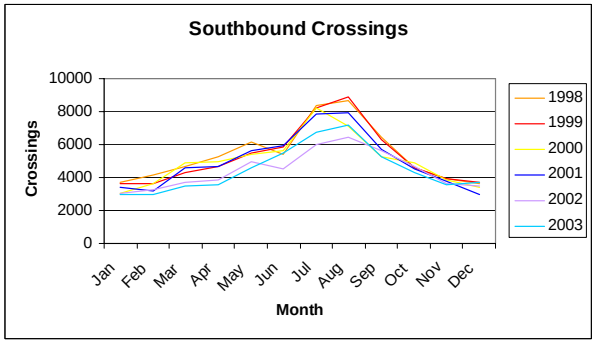


Figure 41 summarizes the monthly southbound border crossings at the Laurier, WA border facility; monthly data was not available for the Canadian facility at Cascade, BC.

Figure 41: Monthly Southbound Crossings at Laurier, WA



1.3 Issues Summary

Based on a review of previous documents and studies, in addition to consultation with the project's stakeholders a list of major highway transportation considerations was identified. These include:

- Conflicting Highway Uses
  - Adverse community impacts from trucks such as: noise, air quality, slow moving trucks in downtown areas (Rossland, Warfield, Trail, Northport)
  - Safety concerns due to vehicle speeds, steep grades and the potential for trucks to lose control through residential/downtown areas

- Restricted Economic Growth
  - High vehicle operation and travel time costs on existing routes between the West Kootenay Region and the Tri-County Region negatively impact the flow of cross-border trade.
    - Cost of increased travel time
    - Cost of increased fuel usage
    - Cost of increased "wear and tear" due to mountainous terrain (brakes, tires, transmissions)
    - Lost time due to adverse weather conditions (road closures, "chain-up" requirements)
    - Reduced efficiency of freight transportation due to weight or vehicle size restrictions

- Cross-Border Tourism / Recreation Opportunities
  - Limited access between Northeast Washington and the West Kootenays restricts the potential of the tourism / recreation industries, such as:
    - Access to Red Mountain Ski Resort (Rossland, BC) for US residents
    - Access to Spokane Region (Spokane International Airport) for West Kootenay residents